

AMENDMENTS TO THE CLAIMS

Please enter the following amendments to the claims without prejudice, without admission, without surrender of subject matter, and without any intention of creating any estoppel as to equivalents, as follows:

1-131. (Cancelled)

132. (NEW) A substantially pure recombinant glycosylated, erythropoietin (EPO), produced by a baculovirus expression system in serum-free cultured insect cells,

wherein:

the EPO

is purified to 95% or greater and has relative homogeneity, and has *in vivo* activity, including stimulating erythropoiesis.

133. (NEW) Erythropoietin as claimed in claim 132 that has *in vitro* activity of at least 200,000 U/mg protein.

134. (NEW) Erythropoietin as claimed in claim 132 that has *in vitro* activity of greater than 200,000 U/mg protein.

135. (NEW) Erythropoietin as claimed in claim 132 that has *in vitro* activity of between 200,000 U/mg protein and 500,000 U/mg protein.

136. (NEW) Erythropoietin as claimed in claim 132 that has *in vitro* activity of 500,000 U/mg protein.

137. (NEW) Erythropoietin as claimed in claim 132 that has *in vitro* activity of greater than 500,000 U/mg protein.

138. (NEW) Erythropoietin as claimed in claim 132 that has *in vitro* activity of at least 500,000 U/mg protein.

139. (NEW) Erythropoietin of claim 132, produced by a method comprising: culturing insect cells in at least one bioreactor whereby there is an insect cell culture, wherein the insect cells contain a recombinant baculovirus containing exogenous DNA encoding erythropoietin,

supplying medium in at least one vessel whereby there is culture medium, circulating culture medium and/or insect cell culture, whereby the bioreactor and vessel are in fluid communication and the insect cell culture and/or culture medium are in circulation, delivering oxygen to the insect cell culture and/or culture medium, and collecting the expressed product, and/or baculovirus and/or the cells.

140. (NEW) Erythropoietin of claim 132 produced by a method comprising: culturing insect cells in a bioreactor whereby there is an insect cell culture, wherein the insect cells contain a recombinant baculovirus containing exogenous DNA encoding erythropoietin,

supplying culture medium in a vessel whereby there is culture medium, circulating the insect cell culture through a dialysis means, circulating culture medium through the dialysis means,

wherein the dialysis means in fluid communication with the bioreactor and the vessel,

whereby

there is

a first, cell culture, loop between the bioreactor and the dialysis means, and

a second, media replenishment, loop between the vessel and the bioreactor,

performing dialysis between the culture medium and the cell culture, and collecting the erythropoietin.

141. (NEW) Erythropoietin as claimed in claim 140, wherein the method further comprises:

delivering oxygen into the cell culture loop and measuring physical and/or chemical parameter(s) of the cell culture and/or the culture medium.

142. (NEW) Erythropoietin as claimed in claim 141, wherein the method further comprises adjusting physical and/or chemical parameter(s) of the cell culture and/or the culture medium in response to data from the measuring.

143. (NEW) Erythropoietin as claimed in claim 141, wherein the method further comprises measuring pH and measuring dissolved oxygen concentration, adjusting physical

and/or chemical parameter(s) of the cell culture and/or the culture medium in response to data from the measuring, wherein the adjusting comprises adjusting temperature to maintain a specific temperature, adjusting pH to maintain a specific pH, and adjusting dissolved oxygen concentration and dissolved carbon dioxide concentrations, whereby the dissolved carbon dioxide levels are adjusted in response to pH measurement(s).

144. (NEW) Erythropoietin as claimed in claim 143, wherein the method further comprises adjusting dissolved oxygen levels in response to dissolved oxygen measurement(s), adjusting pH to a desired level in response to pH measurement(s) by adjusting the dissolved carbon dioxide concentration such that dissolved carbon dioxide concentration is adjusted when pH varies from the desired level, and the dissolved oxygen measurement varies periodically as a function of time, adjusting the dissolved oxygen concentration so that the dissolved oxygen measurement varies from 30% to 90% or from 40% to 80% or from 50% to 70%; or, so that the dissolved oxygen measurement averages about 60%.

145 (NEW) Erythropoietin as claimed in claim 144, wherein the adjusting of the dissolved oxygen concentration so that the dissolved oxygen measurement varies from 30% to 90%.

146. (NEW) Erythropoietin as claimed in claim 144, wherein the adjusting of the dissolved oxygen concentration so that the dissolved oxygen measurement varies from 40% to 80%.

147. (NEW) Erythropoietin as claimed in claim 144, wherein the adjusting of the dissolved oxygen concentration so that the dissolved oxygen measurement varies from 50% to 70%.

148. (NEW) Erythropoietin as claimed in claim 144, wherein the adjusting of the dissolved oxygen concentration so that the dissolved oxygen measurement averages about 60%.

149. (NEW) Erythropoietin as claimed in claim 144, wherein the method further comprises adjusting the dissolved oxygen concentration so that the dissolved oxygen measurement varies from high value to low value over about 10 to about 30 minutes or over about 20 minutes.

150. (NEW) Erythropoietin as claimed in claim 143, wherein the method further comprises adjusting dissolved oxygen levels in response to dissolved oxygen measurement(s),

and adjusting pH to a desired level in response to pH measurement(s) by adjusting the dissolved carbon dioxide concentration such that dissolved carbon dioxide concentration is adjusted when pH varies from the desired level, and the dissolved oxygen measurement varies periodically as a function of time, and wherein a plot of the dissolved oxygen measurement as a function of time comprises a sine wave.

151. (NEW) Erythropoietin as claimed in claim 132 wherein the insect cells are *Spodoptera frugiperda* cells.

152. (NEW) Erythropoietin as claimed in claim 151 wherein the insect cells are *Spodoptera frugiperda* SF900+ cells.